

**Web table A** Frequency of factors and model estimates for predicting pneumonia, urinary tract infection, and bacteraemia

The table below can be used to determine the probability that a child has pneumonia, urinary tract infection, or bacteraemia.

The first step is to calculate the log odds of disease. For example, to determine the log odds of a child having pneumonia, suppose that the child has the following characteristics: duration of illness (48 hours); respiratory symptoms (YES); diarrhoea (NO); urinary symptoms (NO); General appearance (Very unwell); ...; audible wheeze (NO)

The child's log odds of disease is then  $\log(\text{odds}) = -5.10262 + 48 \times 0.0017785 + 0.03025 + 0.00000 + 0.00000 + 1.70039 + \dots + 0.00000$

The estimated probability of each of the diseases is calculated as  $\text{odds}/(1+\text{odds})$ .

Variable		Frequency	Pneumonia				Urinary tract infection				Bacteraemia			
			N	%	Estimate	SE	N	%	Estimate	SE	N	%	Estimate	SE
INTERCEPT	—	—	—	—	-5.10262	0.34014	—	—	-2.96141	0.28939	—	—	-6.1725	0.782
Duration of illness (hours)	—	—	—	—	0.001778 5	.000295 8	—	—	0.000932 6	0.000414 8	—	—	0.001804 2	0.000678 5
Respiratory symptoms	No	4425	42	0.9	0.00000	.	273	6.2	0.00000	.	29	0.7	0.0000	.
	Yes	11376	491	4.3	0.03025	0.25241	270	2.4	-0.34928	0.13027	35	0.3	-0.3616	0.406
Diarrhoea	No	11770	417	3.5	0.00000	.	427	3.6	0.00000	.	55	0.5	0.0000	.
	Yes	4031	116	2.9	-0.02513	0.11762	116	2.9	-0.37058	0.11290	9	0.2	-0.7040	0.375
Urinary symptoms	No	15482	522	3.4	0.00000	.	500	3.2	0.00000	.	63	0.4	0.0000	.
	Yes	319	11	3.4	0.50796	0.32525	43	13.5	1.65868	0.18977	1	0.3	-0.1726	1.029
General appearance	Well	6456	101	1.6	0.00000	.	182	2.8	0.00000	.	8	0.1	0.0000	.
	Mildly unwell	7874	288	3.7	0.35712	0.12700	278	3.5	0.30769	0.10655	29	0.4	1.0364	0.416

	Moderately unwell	1407	129	9.2	0.70523	0.17009	76	5.4	0.81439	0.17353	20	1.4	2.0694	0.485
	Very unwell	64	15	23.4	1.70039	0.40726	7	10.9	1.45883	0.49424	7	10.9	3.4159	0.704
Breathing difficulty	No	13644	291	2.1	0.00000	.	507	3.7	0.00000	.	51	0.4	0.0000	.
	Yes	2157	242	11.2	0.81608	0.13955	36	1.7	-0.07999	0.24077	13	0.6	0.4385	0.466
Bulging fontanelle	No	9297	302	3.2	0.00000	.	414	4.5	0.00000	.	39	0.4	0.0000	.
	Yes	42	2	4.8	-0.12859	0.84284	4	9.5	-0.42010	0.58232	2	4.8	0.7350	0.893
	Closed	6462	229	3.5	-0.18563	0.10353	125	1.9	-0.56989	0.11351	23	0.4	0.0968	0.309
Chronic disease	No	13802	392	2.8	0.00000	.	437	3.2	0.00000	.	49	0.4	0.0000	.
	Yes	1999	141	7.1	0.68156	0.11465	106	5.3	0.85121	0.12035	15	0.8	0.8866	0.327
Age group	0-3 months	756	33	4.4	0.00000	.	93	12.3	0.00000	.	17	2.2	0.0000	.
	>3 months–<3yrs	11653	356	3.1	-0.60409	0.22484	394	3.4	-1.15539	0.15437	35	0.3	-1.6416	0.435
	>3 years - <5 years	3392	144	4.2	-0.50217	0.25731	56	1.7	-1.77220	0.22016	12	0.4	-1.2658	0.564
Cough	No	7286	70	1.0	0.00000	.	374	5.1	0.00000	.	39	0.5	0.0000	.
	Yes	8515	463	5.4	1.20959	0.20426	169	2.0	-0.39756	0.13531	25	0.3	0.2020	0.412
Chest crackles	No	14487	342	2.4	0.00000	.	522	3.6	0.00000	.	57	0.4	0.0000	.
	Yes	1314	191	14.5	0.39726	0.14451	21	1.6	0.05069	0.34224	7	0.5	1.1416	0.890
Crying	No	10585	335	3.2	0.00000	.	295	2.8	0.00000	.	26	0.2	0.0000	.
	Yes	5216	198	3.8	0.10125	0.10508	248	4.8	0.24881	0.09746	38	0.7	0.6633	0.292
Abnormal ENT	No	7230	269	3.7	0.00000	.	344	4.8	0.00000	.	47	0.7	0.0000	.

	Yes	8571	264	3.1	-0.41820	0.09928	199	2.3	-0.37986	0.10582	17	0.2	-1.1851	0.329
Felt hot	No	1209	26	2.2	0.00000	.	20	1.7	0.00000	.	4	0.3	0.0000	.
	Yes	14592	507	3.5	0.30883	0.22807	523	3.6	0.80410	0.24502	60	0.4	0.2766	0.598
Fluid intake	Usual	7344	200	2.7	0.00000	.	244	3.3	0.00000	.	25	0.3	0.0000	.
	Small decrease	6332	231	3.6	0.05361	0.10734	220	3.5	-0.04022	0.10072	29	0.5	0.0824	0.291
	Moderate decrease	2088	100	4.8	0.03978	0.14736	74	3.5	-0.10511	0.14993	9	0.4	-0.5075	0.431
	None	37	2	5.4	-0.10984	0.80613	5	13.5	1.24231	0.52005	1	2.7	1.3642	1.103
Male	No	6976	252	3.6	0.00000	.	275	3.9	0.00000	.	28	0.4	0.0000	.
	Yes	8825	281	3.2	-0.16226	0.09501	268	3.0	-0.26588	0.09150	36	0.4	-0.1630	0.265
Abnormal chest sounds	No	13319	245	1.8	0.00000	.	506	3.8	0.00000	.	55	0.4	0.0000	.
	Yes	2482	288	11.6	0.81220	0.15491	37	1.5	-0.30937	0.29098	9	0.4	-1.2015	0.864
Elevated heart rate	No	8954	197	2.2	0.00000	.	259	2.9	0.00000	.	19	0.2	0.0000	.
	Yes	6847	336	4.9	0.37520	0.10274	284	4.1	0.20557	0.09582	45	0.7	0.8646	0.298
Elevated respiratory rate	No	13587	.	.	0.00000	.	.	.	0.00000	.	57	0.4	0.0000	.
	Yes	2214	.	.	0.41801	0.12233	.	.	-0.20148	0.19010	7	0.3	-0.6800	0.475
Focal bacterial infection	No	14297	483	3.4	0.00000	.	508	3.6	0.00000	.	51	0.4	0.0000	.
	Yes	1504	50	3.3	-0.21493	0.16998	35	2.3	-0.40533	0.18554	13	0.9	0.7961	0.348
Infectious contacts	No	11451	346	3.0	0.00000	.	434	3.8	0.00000	.	48	0.4	0.0000	.

	Yes	4350	187	4.3	0.11068	0.10134	109	2.5	-0.25395	0.11509	16	0.4	-0.1086	0.310
Meningococcal vaccine	Unvaccinated	5347	168	3.1	-0.00785	0.14383	273	5.1	0.61733	0.13897	28	0.5	-0.3323	0.418
	Unknown	4870	198	4.1	0.22016	0.19224	147	3.0	0.33157	0.21250	17	0.3	-0.4470	0.560
	Vaccinated	5584	167	3.0	0.00000	.	123	2.2	0.00000	.	19	0.3	0.0000	.
Pneumococcal vaccine	Unvaccinated	5337	192	3.6	0.37536	0.13763	228	4.3	-0.13589	0.12720	31	0.6	0.4877	0.406
	Unknown	5057	204	4.0	0.17040	0.19557	150	3.0	-0.06067	0.20698	19	0.4	0.4949	0.569
	Vaccinated	5407	137	2.5	0.00000	.	165	3.1	0.00000	.	14	0.3	0.0000	.
Rash	No	13023	485	3.7	0.00000	.	475	3.6	0.00000	.	46	0.4	0.0000	.
	Yes	2778	48	1.7	-0.68394	0.16289	68	2.4	-0.54650	0.13592	18	0.6	0.4738	0.297
Capillary refill time	<2 secs	15083	469	3.1	0.00000	.	494	3.3	0.00000	.	49	0.3	0.0000	.
	2-3 secs	670	60	9.0	0.62913	0.17406	42	6.3	0.01937	0.19430	9	1.3	0.0227	0.430
	>3 secs	48	4	8.3	0.53469	0.62861	7	14.6	0.52380	0.49571	6	12.5	1.1473	0.671
Stridor	No	15520	522	3.4	0.00000	.	541	3.5	0.00000	.	64	0.4	0.0000	.
	Yes	281	11	3.9	-0.89960	0.33671	2	0.7	-1.27056	0.74527	0	0.0	-11.2857	227.283
Highest recorded temperature (°C)	<38	3444	93	2.7	0.00000	.	67	1.9	0.00000	.	9	0.3	0.0000	.
	38-<39	5634	147	2.6	-0.02447	0.14593	184	3.3	0.45294	0.15392	22	0.4	0.3762	0.435
	39-<40	5002	201	4.0	0.60282	0.14643	226	4.5	0.92423	0.15691	22	0.4	0.5748	0.455
	40+	1721	92	5.3	0.83998	0.17586	66	3.8	0.81391	0.19441	11	0.6	1.0044	0.517
Audible wheeze	No	14783	451	3.1	0.00000	.	534	3.6	0.00000	.	62	0.4	0.0000	.

	Yes	1018	82	8.1	-0.96427	0.16059	9	0.9	-0.73712	0.41190	2	0.2	-0.8660	0.838
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